AMENDMENTS TO THE CLAIMS

Please delete the heading before claim 1 and insert the following new paragraph:

a The invention claimed is:

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1. (Currently Amended) A method of maximising the fault coverage on an integrated digital circuit by re-ordering a number of test vectors for testing the digital circuit, said method comprising :

a) providing an initial set of test vectors T_0;

b) providing an original set of faults F_0;

c) selecting faults at random from the original fault list to form a sample fault list F_N;

d) forming a vector set T_{N-1} and simulating the vector set T_{N-1} against fault list F_N;

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e) discarding any vector from the vector set T_{N-1} which does not detect any faults; ~~, and~~

f) saving the remaining vectors as vector set $T_N[[,]]$;

g) repeating the above steps ~~a) to e)~~ c) to f) N times with N having a value of 1 to M so that at the end of [[N]] M steps, ~~saving~~ test ~~vectors T_0~~ vector sets T_1 to T_M are saved;

[[g]] h) removing duplicate vector patterns in each vector set $T_N[[,]]$; and

[[h]] i) saving the duplicate free vector set V_N with N having a value 1 to M, initialising the final vector set and appending vector sets V_M ~~to~~ through V_0 to produce a final vector set T_F.

2. (Currently Amended) A method as claimed in claim 1 wherein in ~~steps a) to f)~~ step g) M is 10 and ~~these~~ steps c) to f) are therefore repeated ten times.

3. (Original) A method as claimed in claim 1 wherein the list of faults selected from the original list of faults have a probability of X^{-N} to produce subset fault list F_N.

4. (Original) A method as claimed in claim 2 wherein the list of faults selected from the original list of faults have a probability of X^{-N} to produce subset fault list F_N.

5. (Original) A method as claimed in claim 3 wherein X=2.

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6. (Currently Amended) A method as claimed in claim 1 wherein the step of removing duplicate vector patterns is achieved by :

[[i]] j) copying the original fault list F_O to provide a secondary fault list [[G_O]] G_N;

[[j]] k) fault simulating vector set T_N against G_N and deleting any vectors which find no faults;

[[k]] l) saving the resulting vectors as vector set V_N and saving the list of undetected faults as list G_{N-1};

[[l]] m) repeating ~~step g) to i)~~ steps k) and l) M+1 times with N having values M to 0[[;]].

7. (Original) A method as claimed in claim 1 wherein the step of removing duplicate vector patterns is achieved by conducting a text search through the list of files of

vector patterns looking for identical patterns, identifying the identical patterns and deleting the identical patterns identified.